ENG. DR. HUSAM ALI HADI NASSER AL-MANSOORI

Contact

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LOCATION:

Ministry of Electricity, IRAQ

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Skills

Improve power quality and stability
Design of grid-connected photovoltaic systems
Formulating legislation and policies for renewable energy

Cyber Security

Analyzing and securing energy systems against cyber threats

Artificial Intelligence

Applying algorithms to improve the performance of photovoltaic systems
Project management and organizing scientific conferences

BRIEF SUMMARY

Ph.D. Renewable Energy Electrical Engineering Specialized in the design, implementation, and management of renewable energy systems, improving energy quality and stability, and designing solar photovoltaic systems (on-grid and off-grid) using innovative technologies such as hybrid systems and energy storage technologies. Skilled in using advanced tools such as PVSyst, AutoCAD, and SketchUp to analyze and optimize systems performance. A visionary, strategic leader passionate about promoting innovation in the energy sector, with more than 20 years of professional experience, in addition to my experience in renewable energy, I have a strong background in cybersecurity and artificial intelligence, as I participated in many specialized conferences and courses in these two fields. My contributions include the use of artificial intelligence to improve the efficiency of solar energy systems and enhance the stability of the electrical grid, in addition to focusing on protecting energy infrastructure from cyber threats. I always strive to develop innovative solutions based on the integration between renewable energy and smart technologies to achieve greater efficiency and sustainability.

EDUCATIONAL QUALIFICATIONS

PhD in renewable energy

Lebanese University, Higher Doctoral Institute for Science and Technology

2023 – 2024

Master's degree in solar energy

Ilam State University

2018 - 2019

Bachelor's degree in Electrical Engineering

Iraq-Baghdad

2014 - 2015

SCIENTIFIC RESEARCH AND ACADEMIC PUBLISHING

I have published many scientific research papers in international journals, including a paper in Heliyon magazine on improving the quality and stability of energy for solar energy systems using a cascade filter, in addition to

research papers in Scopus-indexed journals on improving the performance of grid-connected solar systems.

I have participated in several international conferences and forums related to renewable energy and artificial intelligence technology.

PROFESSIONAL EXPERIENCE

An expert and consultant on renewable energy affiliated with the Iraqi Ministry of Electricity to the Iraqi Parliament Parliamentary Energy Committee.

I contributed to projects to improve the quality and stability of energy, design solar energy systems connected to the grid, in addition to working on developing a draft renewable energy law in cooperation with international bodies.

I worked on preparing a draft renewable energy law, with the aim of promoting the use of sustainable energy sources and reducing dependence on traditional sources.

I worked on:

1. Renewable Energy and Energy Quality: Specializing in improving energy quality and stability, with a focus on grid-connected solar systems using bifacial solar panel technologies. I also have extensive experience in designing solar energy systems connected to electrical networks, and have more than twenty years of practical experience in this field.

2. Legislation and regulation of renewable energy: I contributed to preparing the first draft law for renewable energy in Iraq, as part of my work in the Parliamentary Energy Committee. This included cooperation with the International Renewable Energy Agency (IRENA) to achieve environmental sustainability and reliance on renewable energy sources, demonstrating its commitment to achieving Iraq's transition towards sustainable energy.

3. Academic research: I have several scientific research published in international scientific journals.

4. Organization and management in the field of electricity: Through my work in the Iraqi Ministry of Electricity, I worked to improve the management of electricity distribution through projects that include forming mobile teams to monitor violations in electricity feeders, count the number of transformers, and measure loads in power stations.

2001 – Present Iraqi Ministry of Electricity

Experience in improving energy quality and stability, with a focus on grid-connected solar systems. I held positions in several companies affiliated with the Ministry in the field of distribution and production, which gave me a comprehensive understanding of electricity management and distribution in Iraq.

2001 – 2011 General Company for Middle Euphrates Electricity Distribution

I worked on distributing electricity in this vital area, which gained me field experience.

2011 – 2017 General Company for Baghdad Electricity Distribution Al-Karkh

I gained experience in dealing with field challenges in a complex urban environment.

2017 – 2022 General Company for Middle Euphrates Electric Power Production

I worked in energy production, which added a new dimension to my skills in the electrical sector.

Most prominent works

- **Responsible for Al-Qasim Electricity Distribution Sector**
  - ✓ Implementing a lighting project for all districts of the district
  - ✓ It affects more than 75 250 KV power transformers
  - ✓ All feeders were maintained and no symptoms occurred
- **Responsible for the Vanguard Electricity Distribution Department**
  - ✓ Implementation of modern feeders of 165 km 11 KV with accessories
  - ✓ Replacing the Aerial network from wire to twisted cable
  - ✓ Achieving 100% collection rate throughout the period of assuming responsibility
  - ✓ Regular network maintenance and achieving excellent collection rate
- **Project manager for participation with the private sector in maintenance and collection for Babylon Governorate**

SCIENTIFIC RESEARCH

Hadi, H., Kassem, A., Amoud, H., & Nadweh, S. (2024). "*Improve power quality and stability of grid - Connected PV system by using series filter*". Heliyon, 10. https://doi.org/10.1016/j.heliyon.2024.e39757
Hadi, H., Kassem, A., Amoud, H., & Nadweh, S. (2022). "*Flower Pollination Algorithm FPA used to Improve the Performance of Grid-Connected PV Systems*". International Conference on Computer and Applications (ICCA). DOI: 10.1109/ICCA56443.2022.10039581
Hadi, H., Kassem, A., Amoud, H., Nadweh, S., & Ghazaly, N. (2024). "*Using Grey Wolf Optimization Algorithm and Whale Optimization Algorithm for Optimal Sizing of Grid-Connected Bifacial PV Systems*". Journal of Robotics and Control (JRC), 5(*3*). DOI: 10.18196/jrc.v5i3.21777
Hadi, H., Kassem, A., Amoud, H., & Nadweh, S. (2024). "*Using Active Filter Controlled by Imperialist Competitive Algorithm ICA for Harmonic Mitigation in Grid-Connected PV Systems*". International Journal of Robotics and Control Systems, 4(*2*). DOI:10.31763/ijrcs.v4i2.1365

CERTIFICATES AND RECOGNITION

Certificate of appreciation from the International Renewable Energy Agency for his contribution to the development of renewable energy in Iraq

Many awards and certificates of appreciation during my work as Director of Distribution Sectors

SKILLS

Electrical energy management and analysis of power quality and stability
Design of grid-connected photovoltaic systems
Formulating legislation and policies for renewable energy
Communicating and negotiating with governmental and international bodies
Project management and organizing scientific conferences

LANGUAGES

Arabic: Mother Tongue
English, Persian

TRAINING COURSES

Cairo – Egypt	Law awareness course
Beirut – Lebanon	Skills course in public administration
Babylon - Iraq	Course in computer fields

APPRECIATION CERTIFICATES

Certificate from Al-Mamoun University	Certificate from the University of Babylon	Certificate from Al-Furat Al-Awsat University
Degree from Ilam University	Certificate from Al-Musayyib Technical University	Certificate from the Iraqi Society for Health and Safety

A certificate of appreciation from the Lebanese Public University/Higher Institute for Doctorate in Science and Technology